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(12) **United States Patent**  
**Ohbi**(10) **Patent No.: US 6,643,452 B1**  
(45) **Date of Patent: Nov. 4, 2003**(54) **RECORDED MEDIUM, REPRODUCING APPARATUS, RECORDING APPARATUS, AND REPRODUCING METHOD AND RECORDING METHOD**(75) Inventor: **Seiji Ohbi, Tokyo (JP)**(73) Assignee: **Sony Corporation, Tokyo (JP)**

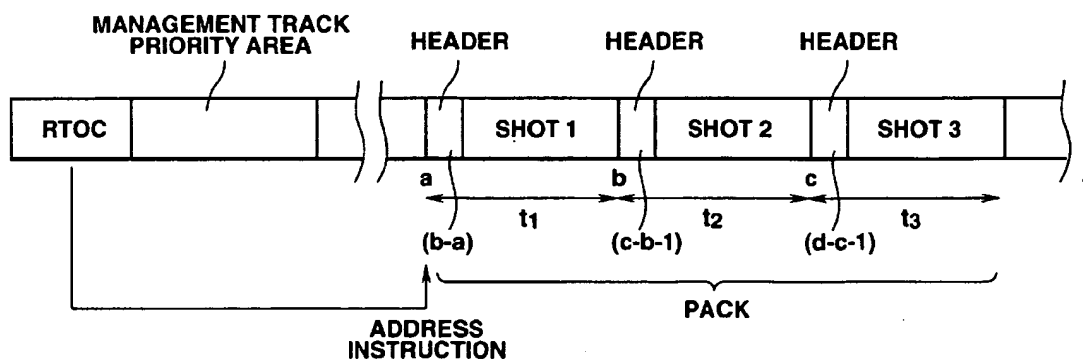
(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/463,797**(22) PCT Filed: **Jun. 9, 1999**(86) PCT No.: **PCT/JP99/03088**§ 371 (c)(1),  
(2), (4) Date: **Mar. 13, 2000**(87) PCT Pub. No.: **WO99/65033**PCT Pub. Date: **Dec. 16, 1999**(30) **Foreign Application Priority Data**Jun. 9, 1998 (JP) ..... 10-160992  
Jun. 9, 1998 (JP) ..... 10-160993(51) Int. Cl.<sup>7</sup> ..... **H04N 5/91**(52) U.S. Cl. .... **386/95; 386/125; 386/126; 369/30.25**(58) Field of Search ..... **386/98, 125, 126, 386/95, 68, 69, 70, 124; 369/30.25, 30.03; H04N 5/91**(56) **References Cited****U.S. PATENT DOCUMENTS**5,838,823 A \* 11/1998 Annessi ..... 382/232  
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By packetizing main data to be recorded in a program area while providing each of the packets with a header (packet property) for managing the data length of individual packets, and further providing a management area (packet index) for batched management of a pack in managing the pack of a plurality of aggregated packets, reproduction of the header (packet property) included in the individual packs at the time of access and reproduction of the management area (packet index) on the inner circle in advance enable access to the individual packets included in the whole pack (that is, the aggregated packets).

**19 Claims, 16 Drawing Sheets**

	SUM OF PACKET SIZE	NUMBER OF PACKS
PACK	t1 + t2 + t3	3